

CLAIMS

What is claimed is:

- Sub A1*
1. A computer system comprising:
    - a plurality of memory caches;
    - a list containing;
      - an address reference for every line in the plurality of memory caches for which a corresponding line in memory may not be identical; and
      - an indicator of which cache owns each line; and
    - the list not containing;
      - address references for lines that are shared or uncached; and
      - data corresponding to the address references.
  2. The computer system of claim 1 wherein the address reference is a tag.
  3. The computer system of claim 1, wherein the indicator of which cache owns the line is a single bit.
  4. The computer system of claim 1, wherein the number of address references that the list can hold is substantially less than the total number of lines that can be stored in the plurality of memory caches.
  5. The computer system of claim 1, wherein the list comprises a single list shared by all devices in the computer system.
  6. The computer system of claim 1, wherein every device that can request a copy of memory data maintains a local copy of the list.

7. ~~A method for maintaining cache coherency in a computer system, comprising:~~

entering into a list, an address reference for all lines that are owned;  
not entering into the list address references for lines that are shared or  
uncached; and  
updating the list only when ownership of a line changes.

8. The method of claim 7, further comprising:

removing an address reference to a line, from the list, when the line is  
written to memory.

9. The method of claim 7, further comprising:

allocating a new entry in the list when a line is not referenced in the list and  
ownership of the line is requested by a device.

10. The method of claim 9, the step of allocating a new entry in the list further  
comprising:

evicting a line from the list; and  
~~copying the evicted line to memory.~~

11. ~~The method of claim 7, further comprising:~~

removing an address reference to a line, from the list, when the line has  
remained in the list for longer than a specified time.

12. The method of claim 7, further comprising:

removing an address reference to a line, from the list, even when the list is  
not full, to help prevent the list from filling.